

Notice of Allowability

Application No.

10/614,838

Examiner

Eliseo Ramos-Feliciano

Applicant(s)

HARRIS ET AL.

Art Unit

2687

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed September 14, 2005.
2. ☒ The allowed claim(s) is/are 1,2,4,6-14,16-24,26-29 and 31-35.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date <u>20050930</u> . |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date <u>SEP/14/2005</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with Atty. Jeffrey K. Jacobs (Reg. No. 44,798) on September 30, 2005.
3. The application has been amended as follows:

IN THE CLAIMS:

Claims 1, 12, 24, and 29 have been amended as follows:

1. (currently amended) A method for signaling based on paging channel loading comprising:
 - determining that an MS needs to be paged;
 - determining a paging channel loading level for each of a plurality of cells in which the MS may be located;
 - paging the MS only in those cells of the plurality of cells in which the paging channel loading level is below a paging threshold;
 - when a page response is received from the MS in a cell, sending short messaging to the MS in the cell, wherein sending short messaging to the MS in the cell comprises sending the short messaging without at least one optional field of the short messaging when the paging channel loading level of the cell is above an overloaded threshold ~~a short messaging threshold~~.

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12. (currently amended) A method for signaling based on paging channel loading comprising:

determining that short messaging needs to be sent to an MS;

determining a paging channel loading level for each of a plurality of cells in which the MS may be located;

transmitting the short messaging to the MS, via paging channel, only in those cells of the plurality of cells in which the paging channel loading level is below a short messaging threshold;

when no short messaging response is received from the MS after transmitting the short messaging to the MS only in those cells of the plurality of cells in which the paging channel loading level is below a short messaging threshold, transmitting the short messaging to the MS, via paging channel, in at least one of those cells of the plurality of cells in which the paging channel loading level is above the short messaging threshold.

24. (currently amended) A radio access network (RAN) comprising:

wireless transceiver equipment adapted to support signaling transmission and reception for each cell of a plurality of cells;

a communications controller, communicatively coupled to the wireless transceiver equipment for each cell of the plurality of cells,

adapted to determine that an MS needs to be paged,

adapted to determine a paging channel loading level for each of the plurality of cells in which the MS may be located,

adapted to page the MS via the wireless transceiver equipment for only those cells of the plurality of cells in which the paging channel loading level is below a paging threshold;

adapted to send short messaging via the wireless transceiver to the MS in a cell when a page response is received from the MS in the cell, wherein the communications controller is adapted to send the short messaging without at least one optional field of the short messaging when the paging channel loading level of the cell is above ~~an overloaded threshold~~ a short messaging threshold.

29. (currently amended) A radio access network (RAN) comprising:
- wireless transceiver equipment adapted to support signaling transmission and reception for each cell of a plurality of cells;
 - a communications controller, communicatively coupled to the wireless transceiver equipment for each cell of the plurality of cells,
 - adapted to determine that short messaging needs to be sent to an MS,
 - adapted to determine a paging channel loading level for each of the plurality of cells in which the MS may be located,
 - adapted to transmit the short messaging to the MS via the wireless transceiver equipment and via paging channel for only those cells of the plurality of cells in which the paging channel loading level is below a short messaging threshold, and
 - adapted to transmit the short messaging to the MS via the wireless transceiver equipment and via paging channel in at least one of those cells of the plurality of cells in which the paging channel loading level is above the short messaging threshold, when no short messaging response is received from the MS after transmitting the short messaging to the MS only in those cells of the plurality of cells in which the paging channel loading level is below a short messaging threshold.

Continued Examination Under 37 CFR 1.114

4. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 14, 2005 has been entered.

Information Disclosure Statement

5. The references listed in the Information Disclosure Statement filed on September 14, 2005 have been considered by the examiner (see attached PTO-1449 or PTO/SB/08A and 08B forms).

Examiner's Remarks

6. Claims 1 and 24 are amended to clarify that the overloaded threshold is the short messaging threshold found in the specification and eliminate any possible degree of indefiniteness. Claims 12 and 29 are amended to clarify that the channel used for transmitting the SMS message is the paging channel, not a traffic channel as found in Hult et al. (US Patent Number 5,822,700).

Allowable Subject Matter

7. **Claims 1-2, 4, 6-14, 16-24, 26-29, 31-35 (renumbered as 1-30, respectively)** are allowed.
8. The following is an examiner's statement of reasons for allowance:

Claims 1 and 24 are allowed because the closest prior art, Hult et al. (US Patent Number 5,822,700) in view of Murto (US Patent Number 5,966,662), either singularly or in combination, fail to anticipate or render obvious a method and apparatus for signaling based on paging channel loading including paging the MS only in those cells where the paging channel loading level is below a paging threshold; and sending the SMS message without certain fields if the paging channel loading level is above a short messaging threshold, both thresholds as defined in the specification (e.g. page 7, lines 4-6), in combination with all other limitations in the claim(s) as defined by applicant.

Claims 12 and 29 are allowed because the closest prior art, Hult et al. (US Patent Number 5,822,700) in view of Murto (US Patent Number 5,966,662), either singularly or in combination, fail to anticipate or render obvious a method and apparatus for signaling based on paging channel loading including transmitting the SMS message to the MS, via paging channel, only in those cells where the paging channel loading level is below a short messaging threshold;

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and when no SMS response is received from the MS, transmitting the SMS message to the MS, via paging channel, in cells where the paging channel loading level is above a short messaging threshold, the thresholds as defined in the specification (e.g. page 7, lines 4-6), in combination with all other limitations in the claim(s) as defined by applicant.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

9. Any inquiry concerning this communication from the examiner should be directed to Eliseo Ramos-Feliciano whose telephone number is 571-272-7925. The examiner can normally be reached from 8:00 a.m. to 5:30 p.m. on 5-4/9 1st Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester G. Kincaid, can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


ELISEO RAMOS-FELICIANO
PATENT EXAMINER 9/30/05

ERF/erf
September 30, 2005